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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/382,524	08/25/1999	PAUL A. FARRAR	303.610US1	5340

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EXAMINER	
ABRAHAM, FETSUM	

ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/382,524	FARRAR, PAUL A.	
	Examiner	Art Unit	
	Fetsum Abraham	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-25 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The following reasons will be used to support the action:

A) A conductive system is part of an integrated circuit for there is no integrated circuit with out a conducting system.

B) A doped semiconductor base material allows current leakage in a given system but can also be used as a conductor base layer a portion of the same could be utilized in a circuit configuration built on the substrate.

C) Undoped semiconductor base layer provides minimized current leakage because of its high resistance characteristics.

D) Epitaxial layers are grown on a substrate and give the advantage of two different substrates to work with and a better mechanical support to systems built on because of the additional layer on the base substrate.

E) Devices built on epitaxial layers on insulators have advantage in that they can be classified as thin devices because of the thin epitaxial films. Such devices have better immunity to noise and leakage currents because they are formed on SOI layers.

Please note that the underlines terms in the action represent the missing elements in the associated claims.

Claims 1,2, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim1 of U.S. Patent No: 6,838,764.

Although the conflicting claims are not identical, they are not patentably distinct from

each other because the said "integrated circuit" in the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the application. Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

Claims 3-5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 18 and 19 of U.S. Patent No: 6,838,764. As for claim 3, although the conflicting claims are not identical, they are not patentably distinct from each other because the said "integrated circuit" in the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the application. Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

As for claims 4,5, the substrate is a semiconductor material. Although the patent may not have taught on the exact type of substrate material, it would have been obvious to one skilled in the art to use a doped or a non-doped semiconductor material to mount the conductive structures depending on the specific use of the end product based on the advantages/disadvantages given by the reasoning of (B and C).

Claims 6-8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 12 of U.S. Patent No: 6,838,764. As for claim 6, although the conflicting claims are not identical, they are not patentably distinct from each other because the said "integrated circuit" in the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the

application. Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

As for claim 7, Although the patent may not have taught on the exact type of substrate material, it would have been obvious to one skilled in the art to use an undoped semiconductor material to mount the conductive structures on for the reason given in C.

As for claim 8, Although the patent may not have taught on epitaxial base layer, it would have been obvious to one skilled in the art to use the structure for building the conductive system on for the reason given in (D).

Claim 9 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 10 of U.S. Patent No: 6,838,764.

As for claim 10, the patent may not have taught on SOI layer to form the claimed structures, it would have been obvious to one skilled in the art to use such a layer to mount the conductive structures on for the reason given in (E).

As for claim 11, silicon is a known and cheap semiconductor material used as wiring substrate in the art for one skilled in the art to select it as a suitable base material for wiring structures.

Claims 12,13,14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,3,4//13 of U.S. Patent No: 6,838,764. As for claim 12, although the conflicting claims are not identical, they are not patentably distinct from each other because the said "integrated circuit" in

the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the application. Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

Claim 15 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 of U.S. Patent No: 6,838,764. Although the patent may not have mentioned circuit lines as applicable elements in the structure, it would have been obvious to one skilled in the art to use lines in the insulating system of the patent, since lines are conductive systems and the prior art is applicable to insulate any conductive element known in the art.

As for claim 16, it would have been obvious to build the conductive system on germanium layer since the choice provides higher carrier mobility than silicon that would allow the better current driving capacity to the overall system.

As for claim 17, it would have been obvious to one skilled in the art to build the conductive elements on GaAs substrate since the substrate provides excellent washability characteristics that can be repeatedly cleaned extending the service time of the end product relatively higher.

Claim 18 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 21 of U.S. Patent No: 6,838,764. As for claim 12, although the conflicting claims are not identical, they are not patentably distinct from each other because the said "integrated circuit" in the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the application.

Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

As for claim 19, the patent may not have taught on SOI layer to form the claimed structures, it would have been obvious to one skilled in the art to use such a layer to mount the conductive structures on for the reason given in (E).

As for claim 20, the patent may not have taught on sapphire layer to form the claimed structures, it would have been obvious to one skilled in the art to use such a layer to mount the conductive structures on to gain the advantages of SOI devices with materially stringer base substrates.

Claim 21 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 21 of U.S. Patent No: 6,838,764. As for claims 1 and 3, although the conflicting claims are not identical, they are not patentably distinct from each other because the said "integrated circuit" in the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the application. Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

As for claim 22, it would have been obvious to build the conductive system on germanium layer since the choice provides higher carrier mobility than silicon that would allow the better current driving capacity to the overall system.

As for claim 23, it would have been obvious to one skilled in the art to build the conductive elements on GaAs substrate since the substrate provides excellent

washability characteristics that can be repeatedly cleaned extending the service time of the end product relatively higher.

Claims 24,25 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14,15,17 of U.S. Patent No: 6,838,764. Although the conflicting claims are not identical, they are not patentably distinct from each other because the said "integrated circuit" in the preamble of claim 1 of the patent directly implies said "conductive system" in the preamble of the application. Therefore it would have been obvious to one skilled in the art to see the similarities of the claimed invention and the prior art based on reason (A).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fetsum Abraham whose telephone number is: 571-272-1911. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915.

Fetsum Abraham
4/29/05